

NEW MEXICO ENVIRONMENT DEPARTMENT

Ground Water Quality Bureau

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RON CURRY Secretary JON GOLDSTEIN Deputy Secretary

Memorandum

To: LaDonna Turner, Site Assessment Manager

Technical and Enforcement Branch

U.S. Environmental Protection Agency, Region 6

From: Dana Bahar, Manager, Superfund Oversight Section

Ground Water Quality Bureau, New Mexico Environment Department.

Date: September 10, 2009

Subject: Pre-CERCLIS Screening Assessment of Isabella Mine, McKinley

Longitude

County, New Mexico: Further action under CERCLA recommended

Site name Isabella Mine City not applicable

County McKinley

Latitude 35° 22' 49.19"

This report
discusses the
State New Isabella South and de

Isabella North.

The Isabella North

Site physical description: The Isabella Mine is on Navajo one open shaft that are approximately 0.06 ail

one open shaft that are approximately 0.06 ail and mineral and mineral and mineral and mineral and mineral and is minesite is comprised of several piles of waste mabeing handled by radioactivity; these are located in or near an ar Region 9.

waste material piles and more northerly area is he southern area of the arren area with elevated area of the minesite is

not applicable

comprised of larger waste material piles and barren areas with elevated radioactivity and an unfenced open shaft. This area is located at the base of an escarpment, along a roadway that has become a drainage.

Site identification: Potential alluvial ground water contamination within the Grants Mineral Belt was identified because background standards established for the contaminants of concern for ongoing remedial action associated with the Homestake Mining Company NPL site (CERCLIS NMD0007860935) are generally higher than Maximum Contaminant Levels (MCLs). NMED conducted sampling of private residential wells in subdivisions located in the vicinity of the HMC site, and found that the majority had one or more contaminant concentrations exceeding MCLs.

Site summary: Observations made during NMED's Site reconnaissance are shown on the accompanying figures. The barren area in the southern portion has radioactivity of 741 counts per second (cps; background assumed to be in the range of 10 to 40 cps from data collected at nearby sites); the waste material bordering and within the arroyo have slightly elevated radioactivity (highest reading during reconnaissance=104 cps). The open mine shaft in the northerly area is a hazard to livestock, wildlife, and humans. A barren area near the shaft had radioactivity of 582

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cps, while 330 cps was measured at the shaft opening. The former roadway that cuts through this area has been extensively incised by erosion. Contamination of vicinity soils and surface drainages by precipitative erosion and wind dispersion comprise the primary contaminant pathways that may be associated with this site. Additionally, site runoff of contaminated wastes may impact ground water quality either through seepage through alluvium or by direct entry to the subsurface via the open hole and shaft.

Targets: Residences are located near the junction of State Hwy. 605 and 509, approximately 3.0 air-miles southeast of the Site. Other potential targets may include cattle and wildlife.

Closest well sampled to date: livestock well SMC-17 (0.8 air-miles; 98.4 µg/l total uranium in 2009 sampling).

Site ownership and Potentially Responsible Parties: Surface rights reportedly are held by the Bureau of Land Management (BLM); mineral rights are held by Newmont Mining Company.

United Nuclear and Ranchers Exploration Company reportedly last operated the mine Northern portion is

File review: NMED staff reviewed the following files:

 Database compiled by Mining and Minerals Division of the New Mexico Ener and Natural Resources Department (07/20/2007).

Anderson, Orin J., 1980. "Abandoned or inactive uranium mines in New Mexic

- McLemore, Virginia T. and William L. Chenoweth, 1991. "Uranium mines and of the Grants district, Cibola and McKinley Counties, New Mexico." New Mexico I Mines and Mineral Resources Open-file report 353.
- Rappaport, Linda, "Uranium deposits of the Poison Canyon ore trend, Grants I "Geology and technology of the Grants Uranium Region, 1963. State Bureau or wines and Mineral Resources.
- U.S. Geological Survey, 1997. "Gallup quadrangle NURE HSSR study." OFR-97-492.

Site reconnaissance: NMED staff conducted a Site reconnaissance on July 2, 2009.

Recommendation: A release of CERCLA hazardous substances has been documented at the site. NMED recommends further investigation under CERCLA to assess the risk posed by the site using the Hazard Ranking System.

NMED recommends that the investigation include the following:

- 1. Sample sediments along drainages to characterize extent of Site-derived waste dispersion.
- 2. Investigate and characterize ground water impacts.

In addition NMED recommends the following actions be performed to address immediate threats to public health and the environment:

- 1. Remove waste with elevated radioactivity.
- 2. Plug open shafts.

Navajo allottee

surface and mineral.



Figure 1: Isabella Mine overview

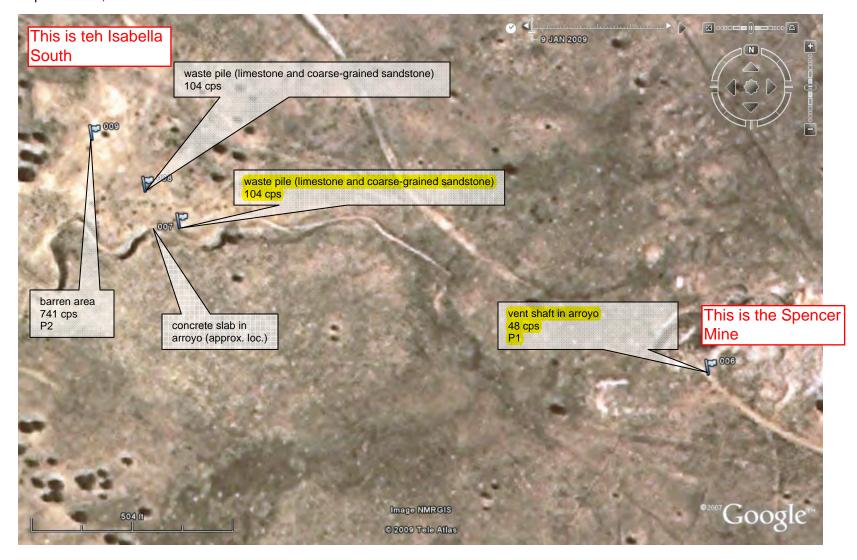


Figure 2: Isabella Mine, southern part—measurements taken on July 2, 2009

"Px" reference the location of photographs on pages following.



Figure 3: Isabella Mine, northern part—measurements taken on July 2, 2009

"Px" reference the location of photographs on pages following.

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P1: Isabella Mine vent shaft



P3: Isabella Mine waste pile



P2: Isabella mine barren area



P4: Isabella Mine shaft

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P5: Barren waste pile